

Abstract of the Disclosure

This application relates to a fuel dispensing system and method for safely
5 regulating transfer of fuel between a fuel dispenser and a fuel recipient. The fuel dispensing system may be used, for example, to replenish electric vehicles that use refillable electro-chemical power generation systems, such as fuel cell hybrid systems using hydrogen fuel. The system employs a combination of interlocks and other safety features specifically adapted
10 for high-risk indoor environments. Fueling cannot commence until the dispenser and the recipient are electrically bonded to minimize the risk of spark generation. The system may include, for example, a fuel supply subsystem for preventing fuel flow except during a fueling session, an immobilization subsystem for preventing relative movement of the
15 dispenser and the recipient during a fueling session, a communication subsystem for enabling data exchange between the dispenser and the recipient, and a leak detection subsystem for monitoring the fueling site for fuel leaks. In order to minimize or negate the risk that hazardous and/or flammable products could be exposed to the atmosphere during
20 a fueling session, the system ensures that fueling cannot commence until multiple safety criteria are satisfied.